A. YEAR IN REVIEW

Quarterly Reports
NEIWPC has a workplan and associated resources to allow the quality assurance program manager (QAPM) to support the organizational quality management system.  On a quarterly basis, activities for this effort are reported to the appropriate EPA project officer.  Below is the reporting for FY-2014.

§106 QUALITY MANAGEMENT
NEIWPC Job Cost Code: #1072-002-001
EPA Project Manager: Ken Moraff
NEIWPC Staff: Michael Jennings
Objective I: Continuing Operation and Refinement of the NEIWPC Quality Management System.  Activities Met:

First Quarter
- Participated in and assisted with the EPA Region 1 QA Unit quality system assessment for NEIWPC.  Assessment interviews were conducted in the Lowell office on October 22 and at the Lake Champlain Basin Program office in Grand Isle, Vermont on November 9.  A report of findings from the assessment is due in the next reporting period.
- Conducted a brown-bag training for Lowell staff on November 6 focused on QAPP review and approval procedures.
- Participated in the EPA Region 1 QA Roundtable meeting held on December 5 in Chelmsford, MA.
- Prepared and submitted the FY-13 annual quality system assessment report to EPA Region 1 and 2 on December 31.

Second Quarter
- Staff worked with the Quality Management Unit at EPA Region 1 to develop a training event for NEIWPC staff.  The training will focus on the basic components of a Quality Assurance Project Plans (QAPP), QAPP completeness and consistency, and QAPP review using the EPA R-5 standards for QAPPs.  The training will take place early next quarter.
- The NEIWPC Quality Assurance Project Manager conducted one-on-one training on QAPP review with Water Resource Protection Division staff in the Lowell office.  This training involved the concurrent review of several QAPPs.
- Staff worked to update and improve an internal database for tracking and organizing QAPPs.
- NEIWPC Management and Quality Management staff began an initial investigation of LEAN Process initiatives in an ongoing effort to streamline internal processes and QAPP review.

Third Quarter
- A QAPP review training was held for staff on April 7.  The training was developed in conjunction with Quality Assurance Unit staff at EPA Region 1.  The training focused on the basic components of a Quality Assurance Project Plans (QAPP), QAPP completeness and consistency, and QAPP review using the EPA R-5 standards for QAPPs.  Certificates of participation were issued to staff completing the training.
- Staff worked to revise and update an internal database for tracking and organizing QAPPs; as well as standard operating procedures for QAPP review processing.
- NEIWPC submitted a letter to EPA Region 1 QA Unit to document certified QAPP reviewers and the internal delegation of the Lake Champlain Basin Program for approval of QAPPs for non-EPA funded projects.
• Awareness training of pending QAPP review procedural changes was presented at the June 11-12 NEIWPCC All Staff meeting, held in Chelmsford, MA.

Fourth Quarter
• Conducted individualized QA orientation training for new technical staff hired during this reporting period.
• Finalized standardized procedures to describe the NEIWPCC QAPP approval process and routing.
• Conducted QA field assessments for two projects: IEC NPDES inspections and OCC Great Kill Harbor breakwater design study. No nonconformance was observed. Results of these field assessments will be contained in the FY-14 annual QMS update.
• Conducted a webinar, available to all NEIWPCC staff, to introduce the new SOP for the QAPP approval process and its project manager expectations and responsibilities.
• Received authorization to utilize a new allocation of resources to continue NEIWPCC quality management activities. These activities will be reported under job cost code 1075-002-001.

QAPP Review and Approval
In FY-2014, 44 projects submitted quality assurance project plans (QAPPs) for review and approval. A list of the QAPPs reviewed and approved is contained in Appendix A. Note that during the course of the fiscal year, some of the information tracked changed – so not every QAPP has a complete record. However, for all QAPPs listed, there is a completed signature page on file; indicating that the review and approval process was completed for all QAPPs listed.

NEIWPCC continues to make improvements to our Access database (QAPP Tracker) which is used to document QAPP approval progress. The QAPP information for FY-2014, contained in Appendix B, was exported from QAPP Tracker.

NEIWPCC has also streamlined our project-specific electronic file storage procedures for QAPPs, so that project-specific folders are created on our internal network. These folders are organized by NEIWPCC fiscal year. Projects are tracked while their approval status is “pending” and then once “completed”.

QMS Assessment
In FY-2014, NEIWPCC participated in our third EPA Quality System Assessment (QSA). The assessment consisted of a review of QA-related documentation and a series of meetings with EPA and NEIWPCC staff. These meetings were held at NEIWPCC’s Lowell, MA and Grand Isle, VT offices. The assessment documented two non-conformances, for which corrective action had already been put in place. EPA’s report of findings and NEIWPCC’s response to that report can be downloaded from our quality management website (www.neiwpcc.org/quality).

QA Presentations and Training
In FY-2014 there were several presentation and training opportunities offered in association with the quality management system. These included:

• Annual QA update/presentation for NEIWPCC Commissioners as part of the January 2014 Commission meeting.
• Joint NEIWPCC/EPA QA Unit training for select NEIWPCC staff in regard to QAPP review and approval authorization; conducted in April 2014.
• Annual QA awareness training/presentation for staff as part of the June 2014 NEIWPCC All-Staff meeting.
Two webinar presentations to interested staff in regard to NEIWPC’s QAPP review and approval SOP. This 45-minute webinar was held in September and repeated in October 2014.

Copies of the presentation materials are contained in Appendix C.

**QA Field Assessments**

Three QA field assessments were conducted in the fall of 2014. The projects assessed and the dates of these assessments were:


For all of the FY-2014 field assessments, all field efforts observed were conducted in accordance with the approved QAPP. No deviations from (or discrepancies with) the approved QAPP approved were observed or noted.

**Expansion of QAPP Approval Authority and Development of Review/Approval SOP**

In FY-2014, a long-standing goal was attained when several staff members at the Lake Champlain Basin Program were authorized to review and approve QAPPs for non-federally funded Champlain Basin projects. The attainment of this goal was the result of the strong EPA quality system assessment findings for Basin program QA activities and staff participation in an EPA-lead training program for QAPP reviewers conducted in April 2014.

In April 2014, eight NEIWPC staff members attended a joint EPA/NEIWPC training on review and approval of QAPPs. After the training, these eight staff members were authorized for the role of “QA designee” and can now substitute for the QAPM in approving QAPPs. A list of authorized QA designees is available on the NEIWPC quality management website. Subsequent to the training, two additional staff members (Susy King and Emily Bird) reviewed the recording of the joint EPA/QA webinar and are now also authorized to serve as QA designees.

**Phase 2 QA Self-Assessments**

Phase 2 QA self-assessment questionnaires were distributed to 31 staff on October 14, 2014. As of December 15, 2014 – approximately 65% of the responses have been returned. The QAPM will continue efforts to increase the number of responses.

**B. QUALITY SYSTEM REVIEW**

**Areas of Success**

A significant amount of effort and resources were directed at improving the turn-around time for NEIWPC QAPP review and approval. This effort resulted in the previously mentioned review and approval SOP, the increase in authorized QAPP reviewers (designees), and the delegation of approval authority for non-federal funded projects to the Lake Champlain Basin Program. Over the coming years, we will monitor the effectiveness of these changes and look for further opportunities to increase process efficiency.

**Areas of Improvement**
A need for additional QA training has been identified with NEIWPC’s Hudson River Estuary Program staff and efforts will be put in place to provide more program-specific QA outreach to them. This program is non-federally funded. Any potential QA training will be developed in consultation with NYS DEC’s Division of Water QA program staff.

C. GOALS FOR NEXT YEAR

In FY-2015, different methods of distributing and obtaining the employee phase 2 QA self-assessment questionnaire will be investigated. Preference will be given to electronic methods (i.e., Survey Monkey or wufoo.com). As part of this effort, NEIWPC will consult with out state partners, in an effort to match their successes.

D. QUALITY MANAGEMENT PLAN REVIEW

Version 5 of the NEIWPC QMP was fully-approved in March 2013 and is valid into 2018. Version 5 of the NEIWPC QMP can be viewed at www.neiwpcc.org/quality.

In FY-2014, there were several changes to the network backup and archival process described in section 7.0 of the QMP. Below is a description of the current procedures as described in the NEIWPC Lowell office SOP.

The file server is protected by an uninterrupted power supply and a full nightly backup offsite to the cloud. Employees are required to store all of their files on the file server (1 or P drives) in order to guarantee a backup and restrict access to their files. Keep in mind that files stored on your local hard drive (C) may be accessed by anyone who uses your workstation, could be lost for good if you have a hard drive failure as they are not backed up.

NEIWPC contracts with a network support firm to provide IT support to the NEIWPC Lowell office infrastructure. A technician is available in-house once a week for maintenance and troubleshooting. Issues or problems with computers or the network are provided to the technician via a weekly task list. This list is maintained by the Information Officer (Web/IT) and delivered to the technician. Staff should not contact the IT contractor directly. For any computer related issues, please contact the Information Officer (Web/IT) and it will be scheduled for the next IT visit. Users may also choose to call the All Covered Help Desk directly at their convenience for assistance, but this still needs to be coordinated with the Information Officer (I/T). If it is an emergency, the support firm can remotely access our servers and address issues. In case the Information Officer (Web/IT) is unavailable, backup point of contact is the Wastewater Division Director or the All Covered Help Desk.

No further modification of the QMP is needed at this time.
APPENDIX A – QAPP list for FY-14
<table>
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<tr>
<th>NEIWPC Project Manager</th>
<th>Project Title</th>
<th>Grant Number</th>
<th>Date Received</th>
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<th>Revisions Received</th>
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<td>HRECOS Water Quality and Weather Stations</td>
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<td>Digital Aerial Photo Inventory of Submerged Aquatic Vegetation in the Hudson River Estuary</td>
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<td>Climate Change Adaptation and Stormwater Management in the Lake Champlain Basin</td>
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<td>Theresa Portante - Lyle</td>
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APPENDIX B – QA Presentations offered in FY-14
FY-13 Quality Management System UPDATE

Mike Jennings
Quality Assurance Program Manager
January 10, 2014

Year in Review

- Quarterly reporting (1072-002-001)
- QAPP Review and Approval – 20 projects
- Comment letter for EPA draft Quality Standard
- QA Presentations and Training – 2
- QA Field Assessment – IEC District ambient monitoring in Western Long Island Sound
- Regional QA Roundtable
- QA Self-Assessments

FY-13 Update

Based on information contained in: Annual Status Report and Quality Management Plan Review for FY-2013 – recently submitted to EPA Region 1 and 2

- Year in Review
- Quality System Review
- Goals for FY-14
- Quality Management Plan Review

Quality System Review

Areas of Success

- QAPP reviews
- Field assessments continue to confirm QAPPs are being followed
- QA Roundtable – sharing technical information
Quality System Review

Areas of Improvement

• Limited staff for QAPP reviews
  – Improve turn-around or reviews
  – Better guidance / tools
• QAPP approval delegation for non-federal projects
• Request for more QA training
• QA Roundtable – sharing technical information
• EPA QA audit in Fall 2013
  – Some minor corrective action needed

Questions - Discussions

Mike Jennings
978-349-2508
mjennings@neiwpcc.org

NEIWPCC Quality System Website
www.neiwpcc.org/quality

Quality Management Plan Review

• NEIWPCC QMP revised in spring 2013 for IEC activities associated with their laboratory
• Seeking to add ability for additional staff to review and approve QAPPs
• Timing of submission of annual QA status report to EPA
Project Officers’ Guide to Expediting QAPP Review and Approval

NEIWPCC QA Training (Part I)
April 7, 2014

Cover/Signature Page

- Check for the following:
  - Quality Assurance Project Plan for (insert project title)
  - Prepared by (insert contractor or staff lead)
  - Under contract with NEIWPCC
  - Version number
  - Version date
  - EPA grant number (if applicable)

Cover/Signature Page (cont.)

- Signature/date blanks for the following (as applicable):
  - Contractor project officer
  - Contractor QA officer
  - Subcontractor PO and QA
  - NEIWPCC project officer
  - NEIWPCC QAPM (or designee)
  - EPA project officer
  - EPA QA Unit reviewer

Note About Version Number...

- Original QAPP draft should be Version 1.0
- Revisions made before QAPP approval should be labeled Version 1.1, 1.2, 1.3, etc.
- Revisions to the approved QAPP (requiring review and re-approval) should be labeled Version 2.0, 3.0, 4.0, etc.
Document Control Header

- Header on each page includes the following:
  - Short title
  - Version number and date
  - Page X of Y

Completeness

- Does the draft QAPP contain all the major parts and sections?
- Does it cover all the environmental data operations described in the project workplan?
- Are all appendices described in the document included?

Consistency

- Do page numbers match the table of contents?
- Are tables and figures labeled appropriately?
- Are data quality objectives and QA procedures described for all environmental data operations described in the project task list?

Consistency (cont.)

- Are the roles and responsibilities described in the project management section maintained throughout?
- Is anything seriously out of place?
- Does it make sense???
Other Miscellaneous Tips:

- Identify who is responsible for maintaining and distributing the official approved QAPP.
- Include a hard end date in the project timeline.
- Include statement regarding NEIWPCC audit/QA assessment.

Questions???
Quality Management System
UPDATE

Mike Jennings
Quality Assurance Program Manager
June 11, 2014

Year in Review

- Number of QAPPs reviewed - 20
- Field assessment conducted
  - Ambient Water Quality Monitoring in the NEIWPC (IEC District) Waterways (Western Long Island Sound)
- EPA Assessment
  - Lowell office – October 2013
  - Lake Champlain office – November 2013
- Revisions to QAPP approval process


QAPP Approval Process Changes

- EPA QAPP Review Training – April 2014
- Additional trained QAPP reviewers (QA Designee)
- Enhanced QAPP Review SOP
  - 3 primary routes to approval (based on funding source)
- Utilization of a QAPP Submission Form
- Tracking approval information via QAPP Tracker
- Delegation of LCBP for non-federally-funded projects
Request for Feedback

Need input from QAPP developers:
• New procedures – are there additional opportunities for improvement?
• Is your program ready for delegation?
• How to get your program ready for delegation?

In addition to:
• More QA training opportunities
• More QA communication

What to Expect...

• Field Assessments
• Phase 1 of QA Self-Assessments
• Phase 2 of QA Self-Assessments
• QA Training/Webinars
• Communication
• Web resources

neiwpcc.org/quality

Questions - Discussions

Mike Jennings
978-349-2508
mjennings@neiwpcc.org

NEIWPC Quality System Website
www.neiwpcc.org/quality
Goals for Today

- Introduce and explain:
  - New QAPP Submission Form
  - New SOP
  - New procedure for submitting QAPPs for review
- Step through SOP flow charts
  - EPA funded project
  - Funded via other sources
- What does this all mean for me?
- Q & A

Review/approval process starts here: neiwpcc.org/quality

QAPP Submission Form

QAPP SUBMISSION FORM

QAPP Title:

NEIWPCC Project Manager:

Contact Information:

Grant Number:

Job Code (Project):

Job Code (For Reviewers Use):

Description (A few sentences about project objectives and the type of data to be collected and analyzed):

Anticipated Start Date of Field Work:

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SOP

I.) **Summary**
This document was prepared to assist NEIWPCC staff in understanding the organizational roles, responsibilities, and procedures for the review and approval of quality assurance project plans. It is intended to be a stand-alone document, but it is not intended to describe all aspects of the NEIWPCC Quality Management System, the process for determining when a QAPP is needed, or the specific components and requirements of a quality assurance project plan.

For EPA Funded Projects
Region 1 or 2

New Step
Receiver is currently Shelly Jenkins

Somewhat New
10 staff authorized to review/approve QAPPs
For Projects Funded by Other Sources

KEEP CALM AND QA
What does this mean for NEIWPCC Staff?

- Familiarize yourself with “new” procedures
- Assist in determining if “other” approvals are needed
- Review QAPP for technical accuracy before submitting for approval
- Complete new Submission Form
- Send Submission Form and draft QAPP to “Receiver” – currently M. Jenkins
- Coordinate any necessary modifications
- Coordinate the signature process

Q&A

You have Questions. We have Answers.
APPENDIX C - QA Field Assessment Reports
Field Assessment to Determine Conformance to Approved QAPP

Project Title: NPDES Compliance Inspections – Reconnaissance with Sampling – in the NEIWPCC (IEC District) Region
Conducted: September 18, 2014

On September 18, 2014, the NEIWPCC Quality Assurance Program Manager (Michael Jennings) accompanied Evelyn Powers and Amanda Rollizo from NEIWPCC’s IEC District during field activities at the Haverstraw – Joint Regional Sewerage Board wastewater treatment facility in West Haverstraw, NY in association with the NPDES Compliance Inspections – Reconnaissance with Sampling project. NEIWPCC and EPA Region 2 approval of the QAPP for this project was completed in August 2014.

Field activities conducted at the West Haverstraw facility on September 18, 2014 included the collection of field data for temperature, pH, and residual chlorine; along with a series of grab samples collected for fecal coliform analysis and a composite sample collected for BOD, total suspended solids, suspended solids, chlorine, and turbidity analyses. Field observations of effluent quality were also documented. In addition, staff documented flow rates provided by the facilities influent totalizer and interviewed plant staff in regard to treatment equipment and processes in use at the time of the visit. All samples were collected at the final outfall after disinfection (plant effluent chamber). Fecal coliform samples were collected directly into sterile bottles. A copy of the sampling plan, field data sheets, chain-of-custody, inspection report, and analytical results are attached to this report.

All field efforts observed were conducted in accordance with the approved quality assurance project plan (QAPP). No deviations from (or discrepancies with) the approved QAPP approved were observed or noted.
Field analysis underway. Sampling location (plant effluent chamber) in background.

Collection of composite sample for BOD, TSS, SS, Cl, and turbidity analysis.

Equipment used for collection of fecal coliform grab sample, including sterile sample container.
NEIWPCC Field Assessment Data Sheet

Project: IEC District NPDES Sampling

Staff: 

Project Location: West Haverstraw, New York

Assessors: Mike Jennings

Assessment Dates: September 18th, 2014

Brief Project Description:

- Is there an approved QA Project Plan for the overall project and has it been reviewed by all appropriate personnel?  
  Yes

- Is a copy of the current approved QA Project Plan maintained at the site? If not, briefly describe how and where quality assurance and quality control requirements and procedures are documented at the site.  
  Maintained in Vehicle

- Is the implementation of the project in accordance with the QA Project Plan?  
  Yes

- Are there deviations from the QA Project Plan? (If yes, explain)  
  No

- Do any deviations from the QA Project Plan affect data quality?  
  No

- Have any corrective actions been taken during the project?  
  No

- Did these corrective actions impact data quality (If yes, describe)  
  No
**INTERSTATE ENVIRONMENTAL COMMISSION**

***NELAP ACCREDITED LABORATORY***

2800 Victory Blvd., Bldg 6S, Room 106, Staten Island, NY 10314, Phone: 718-982-3792, Fax: 718-698-8472, E-mail: ielab@iec-nynjct.org

**SAMPLING PLAN**

FOR IEC'S INVESTIGATION #: 17H94

**COMPLIANCE SAMPLING:** (-) INDUSTRIAL (V MUNICIPAL

**FACILITY/SPDES#:** Haverstraw - Joint Regional Sewerage Board / NY - 0028533

**ADDRESS:** Ecology Lane

**CITY/STATE:** West Haverstraw, NY 10993

**CONTACT PERSON & PHONE#:** Thomas Babcock (845) 429-5715

**DAY(S) AND DATE(S) OF INSPECTION:** Thursday, September 18, 2014

**NUMBER AND LOCATION OF POINTS:** 1 (one) point, final disinfected effluent

**DESCRIPTION OF SAMPLES TAKEN AT EACH POINT:**

Collect **one (1)** grab sample(s) every **4** hour(s) for a total of **6** sample(s) in **5** hour(s) of sampling. Grab samples are to be collected in separate sterilized 125 ml bottles for fecal coliform analyses. Measure the pH and temperature of each grab sample as soon as possible after sample collection. Measure the residual chlorine content of each grab sample as soon as possible after sample collection, taking into consideration the traveling time from the sample location to the discharge point of the facility. Calibrate all equipment as per manufacturer's instructions prior to all field measurements and collect samples as per IEC's SOP FIELD I, Rev. 2. Record the plant's flow during every sampling time and all other information required by IEC's investigation forms.

Obtain a **6** - hour composite by combining into a 2-liter composite bottle **330** ml of effluent collected in a separate bottle during each grab sampling event. Composite to be analyzed for BOD, TSS, chlorides, turbidity, and settleable solids.

**PERSONNEL REQUIRED:**

SHIFT 1: A, R011120

SHIFT 2: N/A

**EQUIPMENT REQUIRED:**

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Manufacturer</th>
<th>Model No.</th>
<th>IEC Inventory No.</th>
<th>Calibrated By</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH/Thermometer</td>
<td>Fisher</td>
<td>AP61</td>
<td>312272</td>
<td>X</td>
</tr>
<tr>
<td>Colorimeter</td>
<td>HACH</td>
<td>5953000</td>
<td>08080E105239</td>
<td>X</td>
</tr>
<tr>
<td></td>
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<td></td>
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<td></td>
</tr>
</tbody>
</table>

**MICROBIOLOGICAL:**

Batch Numbers: Fecal Coliform Plates  WFC 09/14/14

Total Coliform Plates

MPN Tubes

Buffered Dilution Water

Buffered Dilution Tubes

**SPECIAL REMARKS:**

T Babcock @ JR5B.ORG

Sodium Thiosulfate (0.025N) Fisher Cat: SS370-1, Lot: 138109, Exp: 12/2015
MUNICIPAL PLANT EFFLUENT DATA

Plant: Haverstraw
Weather: Sunny
IEC Investigation #: 17494
Air Temperature: 62°F
Disinfection Method: (✓) Chlorination; (-) UV; (-) Other: N/A
Detailed description of where effluent sample is taken: All samples are taken at final outfall after disinfection. Fecal coliform samples taken directly into sterile bottles.

<table>
<thead>
<tr>
<th>Time</th>
<th>Rate of Flow (MGD)</th>
<th>pH</th>
<th>Temperature (°C)</th>
<th>Residual Chlorine (mg/L)</th>
<th>Observations</th>
<th>Initials</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Upon Collection</td>
<td>After 40* Minutes</td>
<td>Oil and Grease</td>
</tr>
<tr>
<td>0710</td>
<td>3.57</td>
<td>7.23</td>
<td>22.2</td>
<td>0.67</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>1110</td>
<td>4.10</td>
<td>7.11</td>
<td>22.0</td>
<td>0.62</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>0910</td>
<td>3.47</td>
<td>7.12</td>
<td>22.5</td>
<td>0.85</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>1010</td>
<td>3.46</td>
<td>7.02</td>
<td>23.6</td>
<td>0.68</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>1110</td>
<td>3.37</td>
<td>7.21</td>
<td>23.7</td>
<td>0.10</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>1210</td>
<td>3.57</td>
<td>7.20</td>
<td>24.2</td>
<td>0.63</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>AVG</td>
<td>3.59</td>
<td></td>
<td>23.0</td>
<td>0.69</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* NOTE: Effluent sample retained 40 minutes before dechlorination.

Analytical Methods:
pH: SM 4500 H-B, 11
Temperature: SM 2550B-00
Residual Chlorine: SM 4500-CI-G, 11

Flow:
Detailed description of how rate of flow is recorded and measured by plant: Data is measured and recorded using influent totalizer located in operator office.

Last Sample Totalizer Reading: Time N/A Reading N/A
First Sample Totalizer Reading: Time N/A Reading N/A
Flow for 6 hour period of sampling: 3.59 mgd

Chlorination (if applicable):
Estimated GPD Sodium Hypochlorite: N/A
Estimated GPD Sodium Bisulfite: N/A

Plant uses ~200 lbs/day Cl₂ for disinfection.

Updated April 2014
# Chain of Custody Form

**NEIWPC (Interstate Environmental Commission District) Laboratory**

2800 Victory Boulevard, Bldg. 65 Rm. 106

Staten Island, NY 10314 Ph: 718-982-3792

---

<table>
<thead>
<tr>
<th>Sample ID</th>
<th>Time/Date</th>
<th>Sealed By</th>
<th>Matrix</th>
<th>Preservative</th>
<th>Sample Description</th>
<th>Location</th>
<th>Unsealed D/T/I</th>
<th>Destroyed D/T/I</th>
<th>Analyses</th>
</tr>
</thead>
<tbody>
<tr>
<td>17494-1</td>
<td>10/10/14</td>
<td>CR</td>
<td>WW</td>
<td>ice</td>
<td>Grab/Comp</td>
<td>Effluent</td>
<td>09/18/14</td>
<td></td>
<td>Fecal coliform</td>
</tr>
<tr>
<td>17494-2</td>
<td>10/10</td>
<td></td>
<td></td>
<td></td>
<td>Grab</td>
<td></td>
<td>14:46:00</td>
<td></td>
<td>Fecal coliform</td>
</tr>
<tr>
<td>17494-3</td>
<td>10/10</td>
<td></td>
<td></td>
<td></td>
<td>Grab</td>
<td></td>
<td>13:55:00</td>
<td></td>
<td>Fecal coliform</td>
</tr>
<tr>
<td>17494-4</td>
<td>10/10</td>
<td></td>
<td></td>
<td></td>
<td>Grab</td>
<td></td>
<td></td>
<td></td>
<td>Fecal coliform</td>
</tr>
<tr>
<td>17494-5</td>
<td>10/10</td>
<td></td>
<td></td>
<td></td>
<td>Grab</td>
<td></td>
<td></td>
<td></td>
<td>Fecal coliform</td>
</tr>
<tr>
<td>17494-6</td>
<td>10/10</td>
<td></td>
<td></td>
<td></td>
<td>Grab</td>
<td></td>
<td>09/18/14</td>
<td></td>
<td>Fecal coliform</td>
</tr>
<tr>
<td>17494-7</td>
<td>10/10</td>
<td></td>
<td></td>
<td></td>
<td>Comp</td>
<td></td>
<td>10:46:00</td>
<td></td>
<td>BOD, TSS, SS, Cl, Turbidity</td>
</tr>
</tbody>
</table>

Matrix Code: WW = Wastewater  SW = Surface (ambient) Water  D/T/I = Date/Time/Initials

**COMMENTS:**
INTERSTATE ENVIRONMENTAL COMMISSION
*** NELAP ACCREDITED LABORATORY ***
2800 Victory Blvd., Bldg 65, Room 106, Staten Island, NY 10314, Phone: 718-982-3792, Fax: 718-698-8472, E-mail: icelab@iec-nynjct.org

IEC's INSPECTION REPORT

INVESTIGATION NO.: 17494 DATE: 09/18/14 PLANT: Haverstraw Joint Regional Sewage Board
ADDRESS: Ecology Lane COUNTY: Rockland STATE: NY
DISCHARGE PERMIT: SPDES (✓) Other (-) PERMIT #: NY- 0028533 EXPIRES ON: N/A
TYPE OF TREATMENT: 2nd Activated Sludge 1st DISCHARGE WATERWAY: Hudson River
INVESTIGATOR(s): Amanda Bolli TO: 12/10

OPERATING STAFF:
PERSON(s) IN CHARGE: Thomas Babcock TITLE(s): Chief Operator
PERSON(s) INTERVIEWED: Thomas Babcock TITLE(s): Chief Operator
OPERATING UNDER SOMEONE ELSE’S LICENSE? LICENSEE: N/A
ON DUTY: Part-Time (-) Full-Time (✓) Plant is Manned: 8 hrs/d 7 d/wk Lab analyses performed by: In House + Aqua Pro Tech Labs
No. of employees during inspection: 11 Total # of full-time employees: 11 Sewer System: Sanitary only

DISINFECTION: Type: Cl₂ gas Year Round (-) Seasonal (✓) From: May 1 To: Oct 31
Flow for the 24 hour period prior to sampling: 3,250 mgd

BYPASS: Capability to Bypass? Y (-) N (✓) Bypassed While Inspecting? Y (-) N (✓) If Yes, record:

<table>
<thead>
<tr>
<th>Unit</th>
<th>STARTING Date</th>
<th>STARTING Time</th>
<th>ENDING Date</th>
<th>ENDING Time</th>
<th>Bypassed Volume</th>
<th>Cause</th>
<th>Agency(ies) Notified</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TREATMENT UNITS / EQUIPMENT INOPERATIVE DURING INVESTIGATION

Treatment Unit or Equipment Inoperative Repairs Repairs to Be Repairs to Be Completed By

N/A

OTHER OBSERVATIONS:
Scum seen going into outfall? Y (-) N (✓)
Sludge bulking in settling tanks? Y (-) N (✓)
Sludge observed going into outfall? Y (-) N (✓)
Floating solids in effluent? Y (-) N (✓)
Oil & Grease visible in effluent? Y (-) N (✓)
Odor Detected? Y (-) N (✓)
Effluent Color: clear/colorless

REMARKS:
Samples taken at final outfall after disinfection. Fecal coliform samples taken directly into sterile bottles.
# IEC's FACILITIES INSPECTION REPORT

**INVESTIGATION NO.: 17494 DATE: 09/18/14 PLANT: Haverstraw - Joint Regional Sewage Board**

(CODES: S=Satisfactory, U=Unsatisfactory, NA=Not Applicable, NI=Not Inspected)

<table>
<thead>
<tr>
<th>Number of Units</th>
<th>Code</th>
<th>Total</th>
<th>In Service</th>
<th>Out of Service</th>
<th>On Standby</th>
<th>Comments / Remarks</th>
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<tbody>
<tr>
<td><strong>General</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buildings and Grounds</td>
<td></td>
<td>1</td>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
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<tr>
<td>Alt. Power Supply</td>
<td></td>
<td>2</td>
<td>1</td>
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<tr>
<td>Main Sewage Pumps</td>
<td></td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
<td>Influent</td>
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<tr>
<td>Flowmeter / Totalizer</td>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>diesel generator, weekly testing one per month under load</td>
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<tr>
<td>Bypass</td>
<td></td>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Blowers</td>
<td></td>
<td>5</td>
<td>1</td>
<td></td>
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<td><strong>Ventilation</strong></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bar Screen</td>
<td></td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
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<tr>
<td>Comminuter/Barminuter</td>
<td>N/A</td>
<td></td>
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<tr>
<td>Grit Chamber/Degritter</td>
<td>2</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td>Grit separator Removed from site by county</td>
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<tr>
<td>Disposal of Screenings</td>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Cyclones</td>
<td></td>
<td>N/A</td>
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<tr>
<td><strong>Primary</strong></td>
<td></td>
<td></td>
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<tr>
<td>Settling Tanks</td>
<td></td>
<td>3</td>
<td>3</td>
<td></td>
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<td>Scum Removal</td>
<td></td>
<td>1</td>
<td>1</td>
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<tr>
<td>Sludge Removal</td>
<td></td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Effluent</td>
<td></td>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Secondary</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Settling Tanks</td>
<td></td>
<td>3</td>
<td>2</td>
<td></td>
<td></td>
<td>(Final clarifiers)</td>
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<tr>
<td>Aeration Tanks</td>
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<td>1</td>
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<tr>
<td>Trickling Filters</td>
<td>N/A</td>
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<tr>
<td>Sludge Removal</td>
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<td>2</td>
<td>1</td>
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<tr>
<td>Effluent Pumps</td>
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<td>1</td>
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<tr>
<td>Effluent</td>
<td></td>
<td>N/A</td>
<td></td>
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<tr>
<td><strong>Sludge Disposal</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Digesters (Primary)</td>
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<tr>
<td>Digesters (Secondary)</td>
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<td>Gas Holders</td>
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<td>Sludge Pumps</td>
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<td>2</td>
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<tr>
<td>Thickeners</td>
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<td></td>
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<td>(Gravity)</td>
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<td>Drying Beds</td>
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<td>Vacuum Filters</td>
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<tr>
<td>Incineration</td>
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<td>1</td>
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</tr>
<tr>
<td>Sludge Disposal</td>
<td>N/A</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Contact Tanks</strong></td>
<td></td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Contact Time in Tanks</strong></td>
<td></td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td>0.5 mile outfall pipe ~40 minutes</td>
</tr>
<tr>
<td><strong>Safety Equipment</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>200 lbs/day chlorine gas</td>
</tr>
<tr>
<td><strong>Ventilation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Chlorinator Capacity</strong></td>
<td></td>
<td>8</td>
<td>1</td>
<td></td>
<td>6</td>
<td>(8 total cylinders)</td>
</tr>
<tr>
<td>Chlorine cylinders</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 online, 1 backup

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IEC Investigation 17494, Page 4 of 4
On September 18, 2014, the NEIWPCC Quality Assurance Program Manager (Michael Jennings) accompanied Michael Ludwig and several other staff from Ocean and Coastal Consultants, during field activities associated with the Great Kills Harbor Breakwater Design project. Field activities were conducted on the water in Great Kills Harbor, located on Staten Island, NY. NEIWPCC approval of the QAPP for this project, which was funded via the Hudson River Estuary Program, was completed in July 2014.

Field activities conducted on September 18th included the video recording of harbor bottom observations and collection of harbor bottom samples by a commercial diver. The diver swam the length of several transects that were established via the navigational GPS of the support vessel. The diver was equipped with a helmet-mounted camera and was in two-way communication with the support vessel. When requested, the diver would collect sediment samples in order to characterize bottom-dwelling organisms. The bottom conditions along the entire length of the transect were recorded onto a DVD.

All field efforts observed were conducted in accordance with the approved quality assurance project plan (QAPP). No deviations from (or discrepancies with) the approved QAPP approved were observed or noted. The data sheet for this field assessment is attached.
Diver preparing to swim third transect; note helmet-mounted camera.

LCD screen showing video feed from helmet-mounted camera.

Sediment sample collected from station 3.1.
NEIWPCC Field Assessment Data Sheet

Project:  Great Kills Harbor Benthic Study

Staff:  

Project Location:  Great Kills Harbor, Staten Island, NY

Assessors:  Mr. Jennings

Assessment Dates:  September 17, 2014

Brief Project Description:

- Is there an approved QA Project Plan for the overall project and has it been reviewed by all appropriate personnel?  Yes

- Is a copy of the current approved QA Project Plan maintained at the site? If not, briefly describe how and where quality assurance and quality control requirements and procedures are documented at the site.

- Is the implementation of the project in accordance with the QA Project Plan?  Yes

☐ Are there deviations from the QA Project Plan? (If yes, explain)

- Do any deviations from the QA Project Plan affect data quality?

☐ Have any corrective actions been taken during the project?

- Did these corrective actions impact data quality (If yes, describe)

2 aspects of Fieldwork:

(a) Characterize substrate organisms (divers)

Follow methodology:

Evaluation of Planned Methods:

- Extreme tides
- New moon
- Diurnal tide
- Substrate/SPAW
Field Assessment to Determine Conformance to Approved QAPP

**Project Title:** Sentinels of Change – Are Salt Marshes in LIS Keeping Pace with Sea Level Rise  
**Conducted:** October 3, 2014

On October 3, 2014, the NEIWPCC Quality Assurance Program Manager (Michael Jennings) accompanied Emily Bird from NEIWPCC and Sarabeth Buckley and Alia Al-Haj from Boston University Fulweiler Lab during field activities associated with the *Sentinels of Change – Are Salt Marshes in LIS Keeping Pace with Sea Level Rise* project. The NEIWPCC and EPA QAPP approval process for this project was completed in May 2014.

Field activities conducted on October 3rd consisted of collecting a series of gas samples from within several closed sampling chambers for carbon dioxide analysis in order to determine salt marsh respiration rates. In addition, litter bag samples and plant tissue samples were collected. All samples were collected into pre-labeled containers. A number of field data were also collected during the sampling visit – atmospheric temperature, atmospheric pressure, chamber temperature, chamber humidity, photosynthetic active radiation, and sky conditions. Field data were recorded on field data sheets.

All field efforts observed were conducted in accordance with the approved quality assurance project plan (QAPP). No deviations from (or discrepancies with) the approved QAPP approved were observed or noted.

*Note: During the field assessment, the retrieval of a pair of groundwater sampling arrays was observed. These arrays and their associated analyses were not described in the approved QAPP. It was later determined that the groundwater analysis is not a component of the NEIWPCC-funded effort.*
Pre-labeled sample containers and syringe

Collecting gas sample from within sample chamber

Above ground biomass sample collected into pre-labeled bag

Field data sheet
project: study of changes on solid waste in LISKEE PARK

staff: Saumik Bandy / Ali Al-Haj

project location: Bain Island, Stonington, Conn.

assessors: M. Jennings L. R. A.

assessment dates: October 2014

brief project description:

- Is there an approved QA Project Plan for the overall project and has it been reviewed by all appropriate personnel? **yes**

- Is a copy of the current approved QA Project Plan maintained at the site? If not, briefly describe how and where quality assurance and quality control requirements and procedures are documented at the site. **Electrical version on-site**

- Is the implementation of the project in accordance with the QA Project Plan? **yes**

- Are there deviations from the QA Project Plan? (If yes, explain)

- Do any deviations from the QA Project Plan affect data quality? **yes**

- Have any corrective actions been taken during the project? **no**

- Did these corrective actions impact data quality (If yes, describe) **yes**

Pore water - not in original QMPL (3)
Is there a question of QMPL to provide pore water related activities.